

### **ABSTRACT OF THE DISCLOSURE**

Embodiments of the invention include a digital filtering apparatus and method for digitally filtering out undesirable or invalid data from data signal lines. The digital filtering apparatus includes a digital delay element having one or more outputs, a comparator operably connected to the outputs of the digital delay element, and a final stage operably connected to the output of the comparator and the outputs of the digital delay element. In operation, the digital filtering apparatus recognizes and filters out invalid data from data received by the digital delay element, and allows valid data to pass through the filter. Data is considered to be invalid data if its logical data state transition has a duration less than the clock setting of the digital filtering apparatus. The clock setting is established, e.g., by the number of active delay components (e.g., flip-flops) in the digital delay element and the corresponding number of active comparator inputs connected to the outputs of the active delay components. Thus, the bandwidth of the digital filtering apparatus is increased or decreased, e.g., by increasing or decreasing, respectively, the number of active delay components in the digital delay element. The inventive digital filtering apparatus represents an improvement over conventional analog filters, e.g., in manufacturing efficiency and filtering performance.